

## ANNEX M (TCM COMPLETE ROUND LISTING)

1. **GENERAL** This Annex contains a listing of TCM complete round components developed from information resident at HQ, AMCCOM and provides data relevant to TCM TPFDD development and requisitioning for these components. OPR for this annex is HQ AMCCOM, AMSMC-DSD-AS/AMSMC-DSP-M.

### 2. **TCM TPFDD DEVELOPMENT/REQUISITIONING DATA**

a. The source for required components of the 155mm and 8-inch projectiles is normally through conventional ammunitions (Class V) supply support.

(1) These components are common to conventional 155mm and 8-inch projectiles and can be found at all levels of supply storage points: firing batteries; ammunition transfer points; forward ammunition supply points; and corps storage areas.

(2) Deliberate planning for requisitioning these components should be to use those components already available for conventional projectiles and replenish through normal Class V resupply. However, should the CINC desire shipment of complete rounds, all required components must be identified, consolidated by the CINC, forwarded to JCS for approval and to AMCCOM for sourcing.

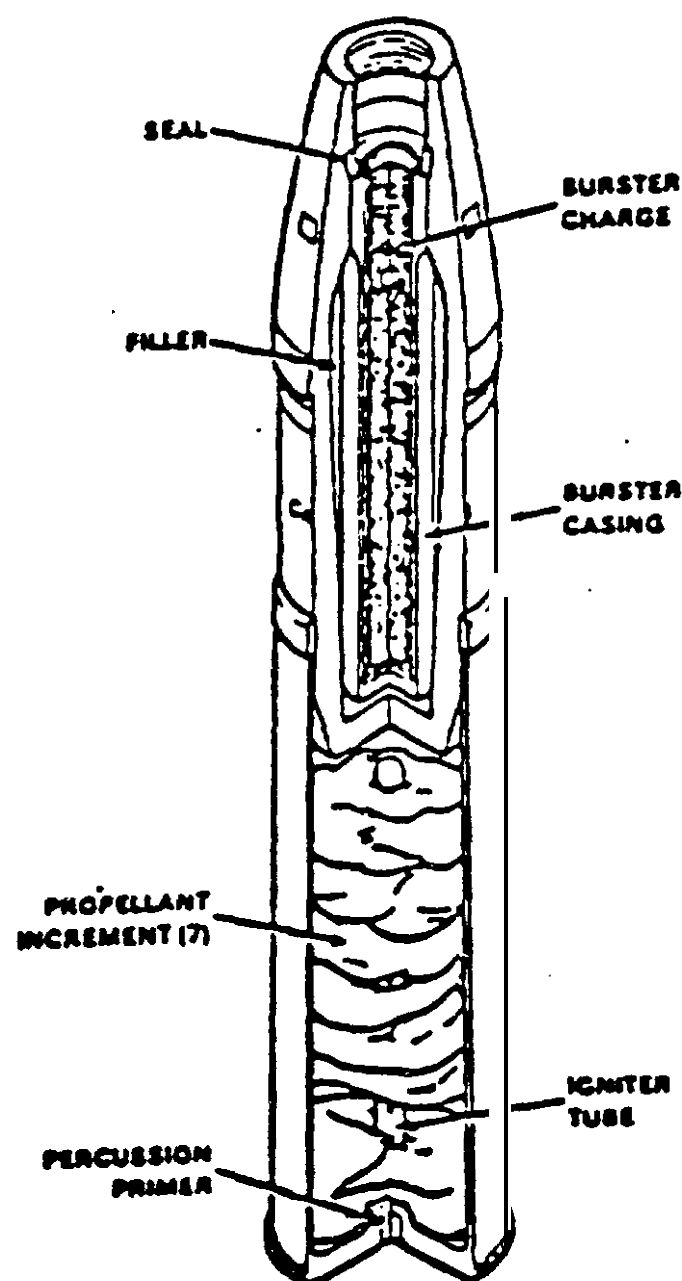
b. Air Force and Navy toxic chemical bombs have both common and item-unique components. Both Services have identified item-unique components for shipment with the bombs and common components which will be supplied by theater using commands.

(1) Air Force MC- 1 bombs shall be shipped with **burst**ers on a one-for-one basis; all other required components will be **pre-positioned** by and at the theater using commands. TCM TPFDD development and requisitions will include the **burst**ers. Requisitions for all other components will be through normal Class V **supply/resupply** channels.

(2) Navy MK94 MOD-O bombs shall be shipped with **burst**ers on a one-for-one basis; all other required components will be **pre-positioned** by and at the theater using commands. TCM TPFDD development and requisitions will include the **burst**ers. Requisitions for all other components will be through normal Class V **supply/resupply** channels.

(3) Navy **MK1** 16 Weteye bombs shall be shipped with **burst**ers on a **four-to-one** basis; all other required components shall be **pre-positioned** by and at the theater using commands. TCM TPFDD development and requisitions shall include the **burst**ers. Requisitions for all other components will be through normal Class V **supply/resupply** channels.

- c'. All other TCM are shipped as complete rounds.
- d. Following is the TCM complete round listing.



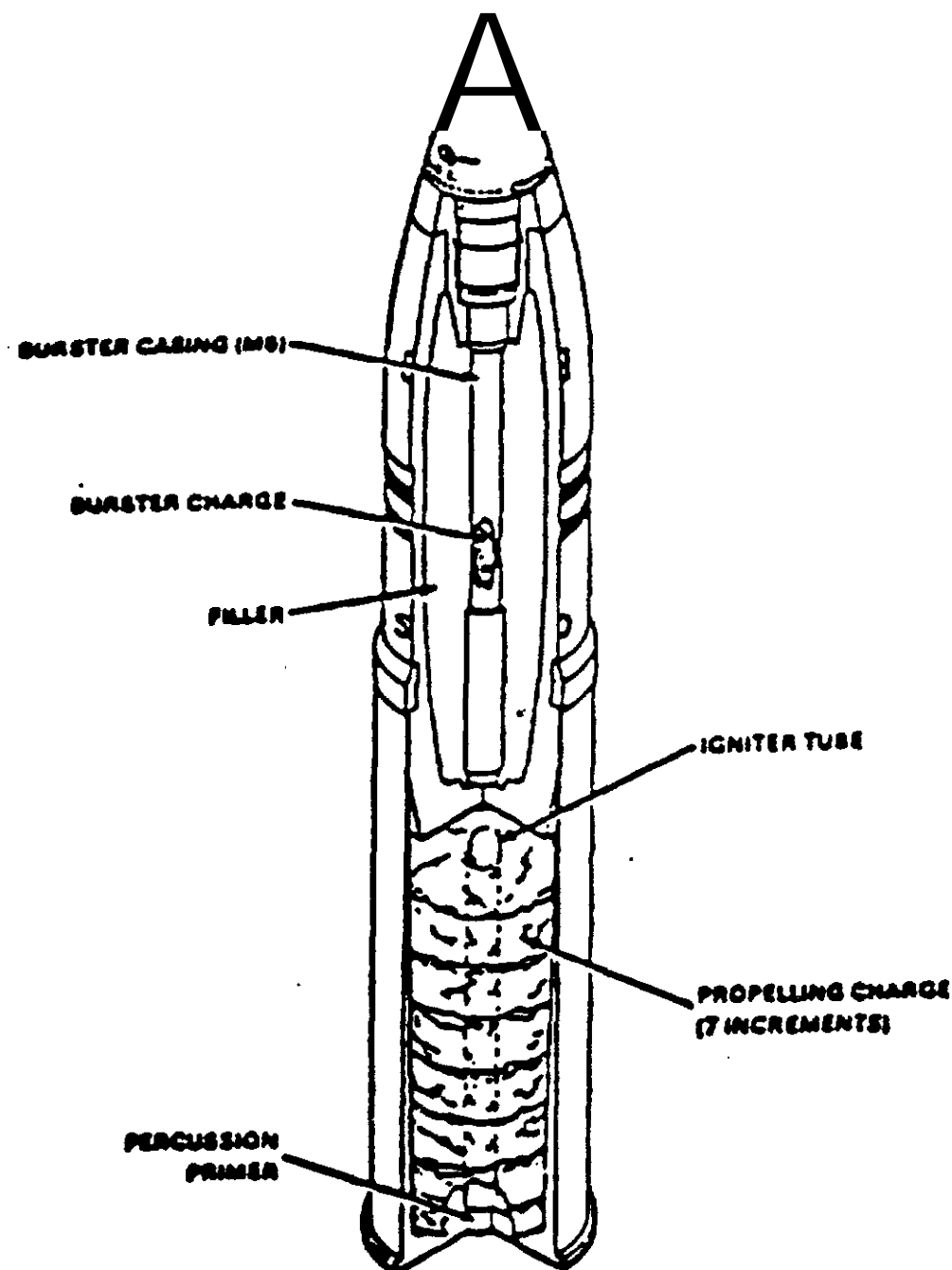
CARTRIDGE, 105MM, M360  
CHEMICAL AGENT GB, (1315-C441)

The M360 cartridge is made up of three basic components: projectile, cartridge case and **fuze**. The cartridge is a **semi-fixed** round of ammunition. The projectile is a hollow one-piece steel forging which contains 1.63 pounds of **GB** chemical agent and a press fitted **burster** casing with a composition B type **burster**. The cartridge case is a primed/charged M14 series. The **fuze** is a point detonating (I'D) type. The **M360 is overpacked** in a fiber container and two rounds are stored **and** shipped in a wooden box outer-pack. No additional components are needed by gun crew to **fire** this cartridge.

NSN	NOMENCLATURE	USER
1315-00-203-8985	Cartridge, 105mm, M360, W/Fuze	Army/Marine

	PD, M508	corps
1315-01-028-1234	Cartridge, 105mm, M360, W/Fuze PD, M557	Army/Marine corps

**NOTE:** The M739 (1390-N340) and M577 (1 390-N335) point detonating (PD) fuze may also be used on this round.



CARTRIDGE, 105MM, M60  
CHEMICAL AGENT: H/HD (1315-C442)

The M60 cartridge is **similar** to the M360 cartridge with the following exceptions: The M60 cartridge contains 2.97 pounds of mustard agent and the **burster** is **tetrytol** instead of composition B. No additional components are required by the gun crew to fire this round.

NSN	NOMENCLATURE	USER
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1315-00-028-4829

Cartridge, 105MM, M60, W/Fuze  
PD, M57

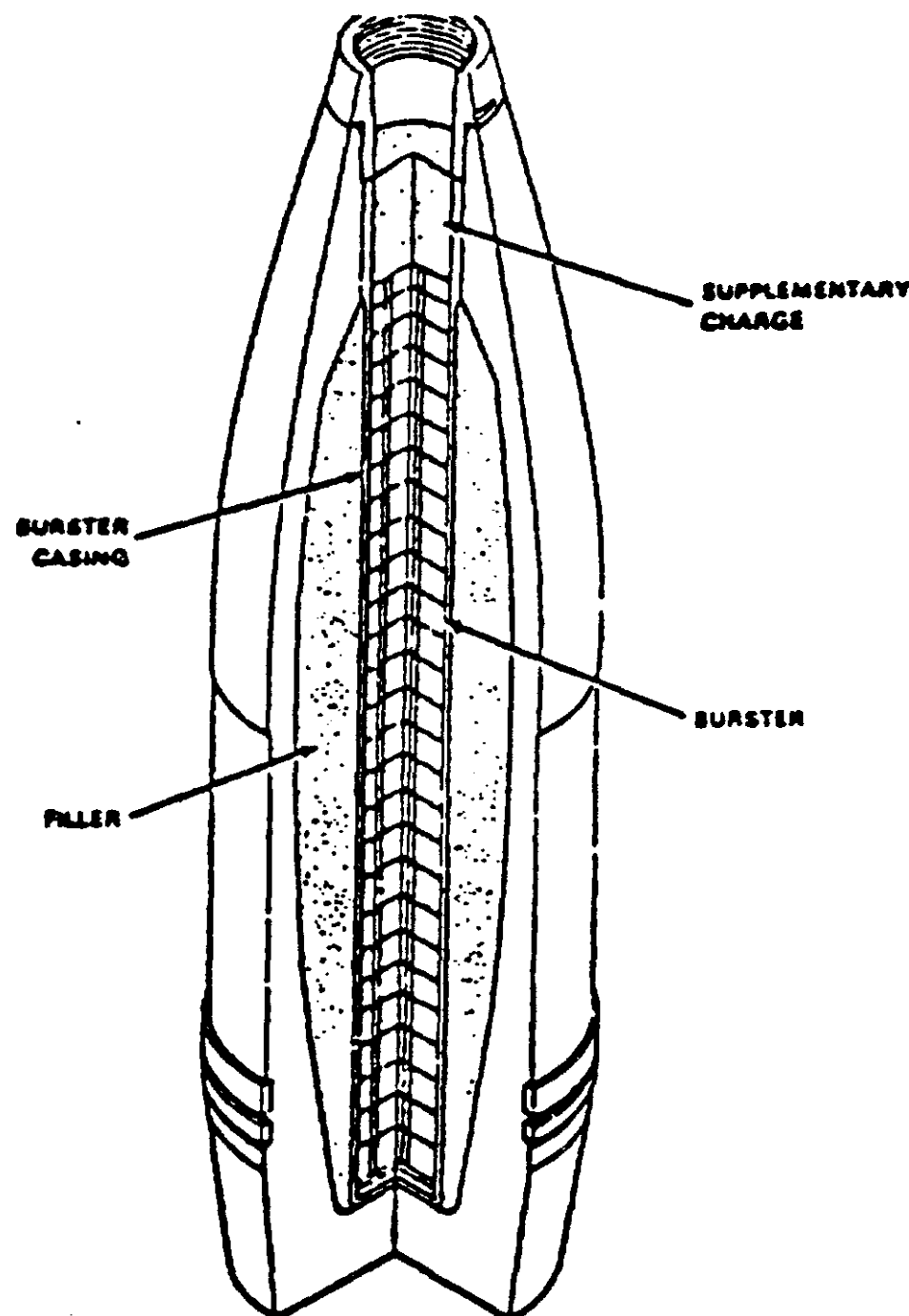
Army

1315-00-322-6365

Cartridge, 105mm\, M60, W/Fuze,  
PD, M51A5

Army

NOTE: The M739 1390-N340 point detonating (PD) fuze may also be used on this round.



PROJECTILE, 155MM, M121A1  
CHEMICAL AGENT GB; (1320-D542\)  
CHEMICAL AGENT: VX; (1320-D568\)

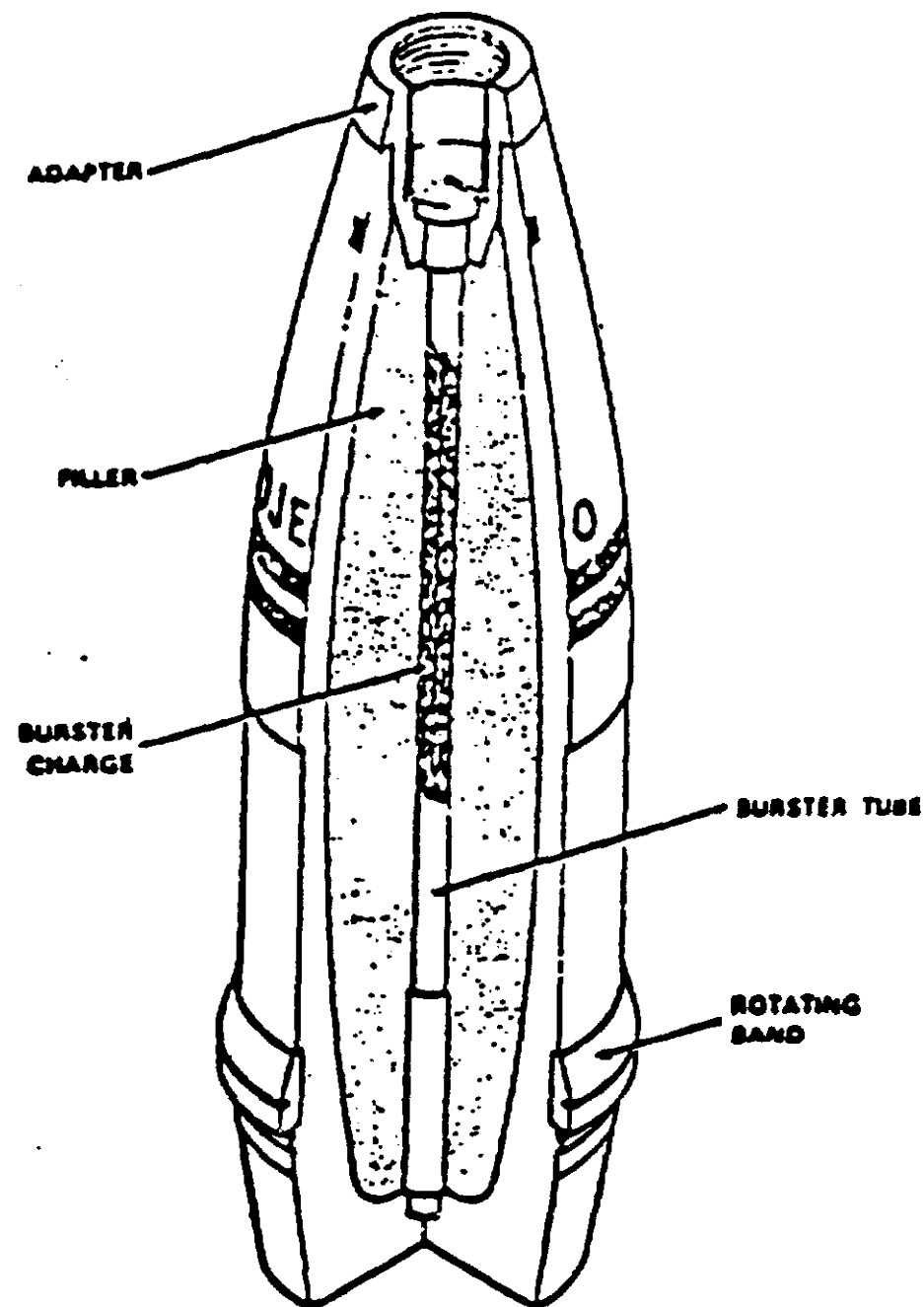
The projectile **M121A 1** is a hollow, deep-cavity steel shell containing a supplementary charge, burster and a gas filler of either nonpersistent or persistent chemical agent. The M71 burster is a thin metal cylinder filled with composition B explosive extending through the center of a M15 burster casing. The projectile is filled with 6.5 pounds of nonpersistent and 6.0 pounds of

persistent agent. A supplementary charge (**TNT**) is installed by manufacturer and held in place by a cardboard spacer. A lifting plug is then installed for handling and shipping into the fuze well. A point detonating (**PD**) or proximity fuze can be used with this projectile. Do not remove supplementary charge for M732 proximity **fuze**. The following items and components are needed by the gun crew to fire this projectile:

DODAC	NOMENCLATURE	NSN	USER
1320-D542 See Note 1	<b>Projectile, 155mm, M121A1 GB</b>	1320-00-892-4186 corps	Army/Marine
1320-D568	<b>Projectile, 155mm, M121A1 VX</b>	1320-00-756-2888 corps	Army/Marine
1320-D594	<b>Projectile, 155mm, M687 GB-2</b>	1320-00-431-6249	Army/Marine corps
1320-D533	Charge, Propelling; M1 19A1 Red Bag	1320-01-093-6856 1320-01-051-4132 1320-00-143-6847	Prime Stock Alternate Stock Alternate <b>Stock</b>
1320-D540	Charge, Propelling; M3A1 Green Bag	1320-00-935-1922 1320-00-028-4837	Prime Stock Alternate Stock
1320-D54 1	Charge, Propelling; M4A2 White Bag	1320-00-935-1923	Prime Stock
1390-N335	Fuze, PD; M557	1390-00-187-5392 1390-00-892-4302	Prime Stock Alternate Stock
1390-N340	<b>Fuze, PD; M739</b>	1390-00-574-7705 1390-01-080-9447 1390-01-032-7481	Prime Stock Prime Stock Alternate Stock
1390-N463	<b>Fuze, proximity, M728</b>	1390-00-182-3132	Prime Stock
1390-N464	<b>Fuze, Proximity, M732</b>	1390-01-020-0096 1390-01-137-5444 1390-01-202-1710	<b>Prime</b> Stock Alternate Stock Alternate Stock
1390-N523 See Note 2	Primer, Percussion, M82	1390-00-892-4202	Prime Stock
1390-N525 See Note 2	Primer, Percussion, <b>MK2A4</b>	1390-00-935-9234 1390-00-028-4918 1390-00-028-4919 1390-00-926-3924 1390-00-009-5571	<b>Prime</b> Stock Alternate Stock Alternate Stock Alternate Stock Alternate Stock

## Footnote:

1. The **M121A1** projectile is to be used with cannon M1, M1A1, M45, **M126**, **M126A1**, **M185** and **M199**.
2. The M82 primer is used with cannon M126, **M126A1**, **M185** and M199. The MK2A4 prime is used with cannon M1, M1A1, M1A2 and M45.



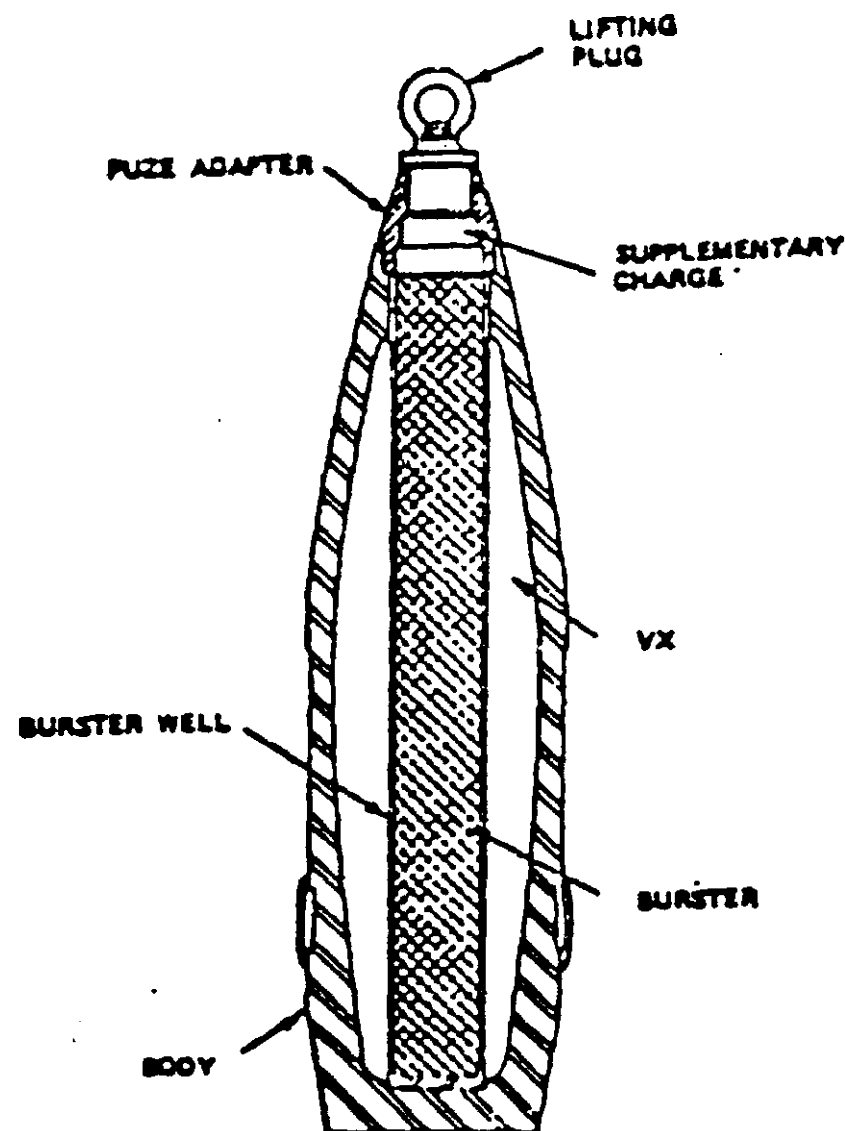
PROJECTILE, 155MM, M1 10  
CHEMICAL AGENT, H/I-ID (1320-D543)

The M1 10 projectile is a hollow steel casing containing a **burster** extending through the center. The **burster** tube is loaded with a **tetrytol** burster, the remaining cavity is filled with 11.7 pounds of chemical agent **H/HD**. A lifting plug is installed in the nose **fuze** cavity for use in shipping and handling. A PD **fuze** is normally **used** with this projectile. The following items and components are needed by the gun crew to **fire** this projectile:

DODAC	NOMENCLATURE	NSN	USER
1320-D543 Note 1	Projectile, <b>155mm</b> , Ml 10	1320-00-529-7352	Prime Stock <b>User:</b> Army
1320-D533	Charge, Propelling, Ml 19A] Red Bag	1320-01-093-6856 1320-01-051-4132 1320-00-143-6847	Prime Stock Alternate Stock Alternate Stock
<b>1320-D540</b>	Charge, Propelling, M3A1, Green Bag	1320-00-935-1922 1320-00-028-4873	prime Stock Prime Stock
<b>1320-D541</b>	Charge, Propelling, M4A2, White Bag	1320-00-935-1923	Prime Stock
<b>1390-N278</b>	<b>Fuze</b> , Mechanical Time, M564	1390-00-889-2044 1390-01-032-6130	Prime Stock Alternate Stock
<b>1390-N335</b>	<b>Fuze</b> , PD, M557	1390-00-187-5392 1390-00-892-4302	Prime Stock Alternate Stock
<b>1390-N340</b>	Fuze, PD, M739	1390-00-574-7705 1390-01-080-9447 1390-01-132-7481	Prime Stock Alternate Stock Alternate Stock
<b>1390-N523</b> Note 2	Primer Percussion, M82	1390-00-892-4202	Prime Stock
<b>1390-N525</b> Note 3	Primer Percussion, <b>MK2A4</b>	1390-00-935-9234 1390-00-028-4918 1390-00-028-4919 1390-00-926-3924 1390-00-009-5571 1390-01-008-4605	Prime Stock Alternate Stock Alternate Stink Alternate Stock Alternate Stock Alternate Stock

Footnote:

1. The Ml 10 projectile is to be used only with cannon Ml, MlA1, M1A2, M45, **M126**, **M126A1**, M185 and M199.
2. Use M82 primer, percussion when **firing** the M126, **M126A1**, M185 and M199 cannon.
3. Use MK2A4 primer, percussion when **firing** the Ml, MlA1, M1A2 and M45 cannon.



PROJECTILE, 8-INCH M426  
 CHEMICAL AGENT VX (1320-D695) -  
 CHEMICAL AGENT GB (1320-D696)

The M426 projectile is a hollow steel forging with a tubular **burster** casing extending through the center of the projectile. It contains a composition B-type **burster** and is filled with 14.5 pounds of chemical agent **GB** or **VX**. A lifting plug is installed in the fuze adapter for use in handling and shipping. Either a point detonating (**PD**) or a proximity fuze may be used with this projectile. A TNT supplementary charge is installed by the manufacturer and held in place with a cardboard spacer. Do not remove supplementary charge if the M732 proximity is used. The following components are needed by the gun crew to **fire** this projectile:

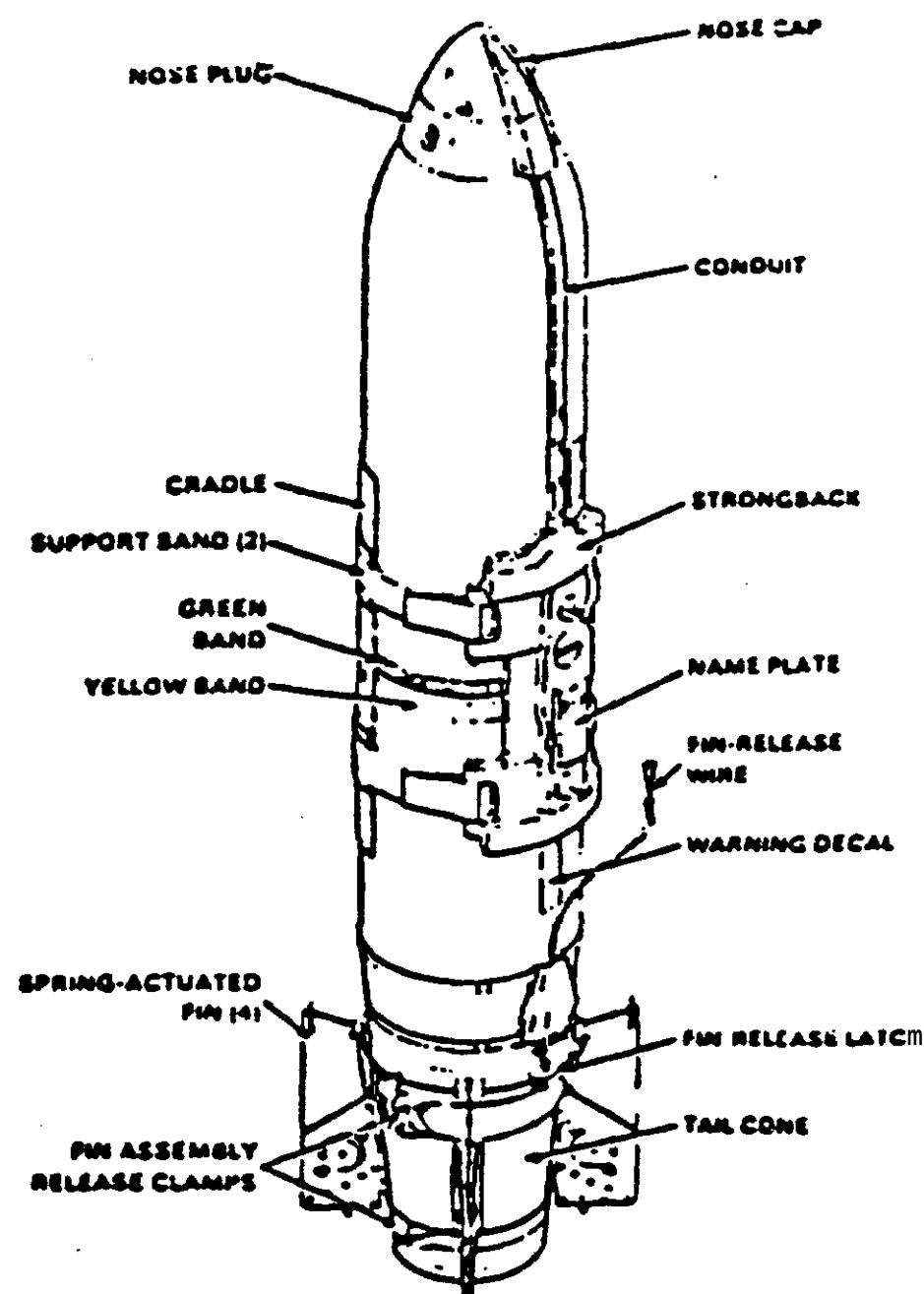
DODAC	NOMENCLATURE	NSN	USER
1320-D695	Projectile, 8-Inch M426 Chemical Agent <b>VX</b>	1320-00-763-6878	Prime Stock <b>User:</b> Army
1320-D696	Projectile, 8 Inch M426 Chemical Agent <b>GB</b>	1320-00-763-6879	Prime Stock <b>User:</b> Army/ Marine Corps
1320-D662	<b>Charge</b> , Propelling; M1 88A1/ M188 White Bag	1320-01-070-4485 1320-01-070-4486	Prime Stock Alternate Stock
1320-D675	Charge, Propelling; M1, Green Bag	1320-00-028-4374 1320-00-542-0132	Prime Stock Alternate Stock .



1320-D676	Charge, Propelling; M2, White Bag	1320-00-028-4375 1320-00-028-4378	prime Stock Alternate Stock
1390-N335	Fuze, PD; M557	1390-00-187-5392 1390-00-892-4302	Rime Stock Alternate Stock
1390-N340	Fuze, PD; M739	1390-00-574-7705 1390-01-080-9447 1390-01-132-7481	prime Stock Alternate Stock Alternate Stock
1390-N463	Fuze, proximity; M728	1390-00-182-3132	Prime Stock
1390-N464	Fuze, Proximity; M732	1390-01-020-0096 1390-01-137-5444 1390-01-202-1710	Prime Stock Alternate Stock Alternate Stock
1320-D68 1	Flash Reducer	1320-00-926-9302 1320-00-028-4368	prime Stock Alternate Stock
1390-N523 Note 1	primer Percussion; M82	1390-00-892-4202	<b>Prime</b> Stock
1390-N525 Note 1	Primer Percussion, <b>MK2A4</b>	1390-00-935-9234 1390-00-028-4918 1390-00-028-4919 1390-00-926-3924 1390-00-009-5571 1390-01-008-4605	<b>Prime</b> Stock Alternate Stock Alternate Stock Alternate Stock Alternate Stock Alternate Stock

Footnote:

1. M82 primer is used with cannon M47, M2A2 and M201. MK2A4 primer is used with cannon M2 and **M2A1**.



**BOMB, CHEMICAL, MK116 MOD O (WETEYE)  
CHEMICAL AGENT: GB; (1325-E382)**

The **MK1 16 MOD O** is a high **agent-to-weight** ratio bomb filled with 347.0 pounds of nonpersistent chemical agent (**GB**). This bomb is fuzeed with a mechanical time fuze and has four **MK5 MOD O** **burst**ers which upon impact explosively disseminates the chemical agent. The **MK1 16 MOD O** is shipped and stored in a **MK398 MOD O** shipping and storage **container**; fuzes and **burst**ers are shipped separately.

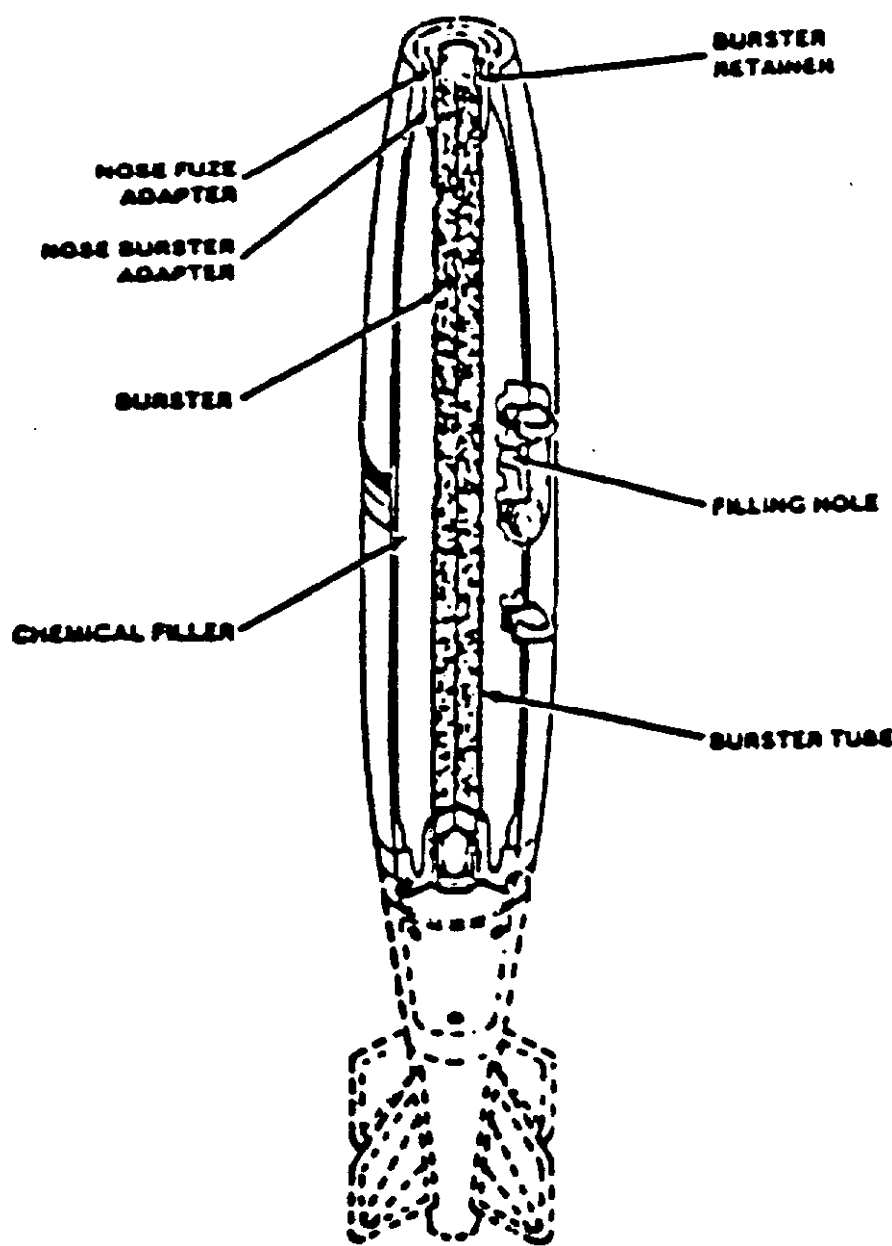
DODAC	NOMENCLATURE	NSN	USER
1325 -E382	Bomb, Chemical Agent GB <b>MK1 16 MOD O (Weteye)</b>	1325-00-890-7937	Prime Stock User: Navy/ USMC (Air)
1325 -F526	Burster <b>MK5 MOD O</b>	1325-00-890-7935	Prime Stock

Note 1

1325-F681	Fuze, Bomb; Nose M904E2, Impact Non-DEL	1325-00-926-1895	Prime Stock
1325 -E372	Bomb Chemical, M1 16 MOD O Weteye (Empty)	1325-00-890-7936	Prime Stock
None	Shipping and Storage Container MK398 MOD O	8140-00-890-7930	

Footnote:

1. The MK1 16 MOD O requires 4 MK5 MOD O bursters to be installed.



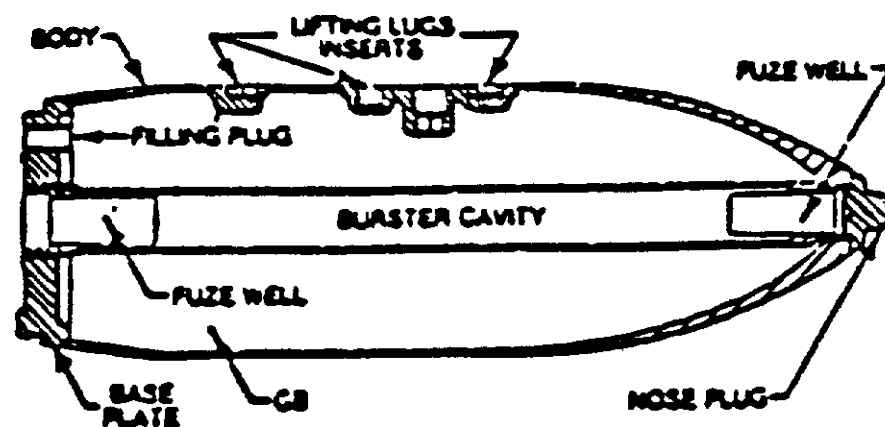
BOMB, CHEMICAL AGENT GB  
MK94 MOD O, 500# (1325-E384)

The **MK94** MOD O is essentially a MK82 general-purpose (GP) fin stabilized, low drag bomb which has been **modified** for chemical agent filling. The modification consists of elimination of the electric cable conductors, adding a **burster** well, and adding filling holes; The body wall is constructed of steel with a minimum thickness of 0.4 inches. The MK94 MOD O is **filled** with 108 pounds of nonpersistant chemical agent and is stored with nose and tail shipping plugs installed. The **burster, fuzes**, adapter booster, fin assembly and hoisting lugs are packed and shipped separately, the suspension lugs are packaged and shipped with fin assembly.\* The buster **fuze**, arming wires and assemblies are assembled in the field or aboard ship to form a complete round. The tail fuze is not **normally** used on the **MK94** MOD O. The **following** items are **required** for the **MK94-O** to be functional: “

DODAC	NOMENCLATURE	NSN	USER
<b>1325-E384</b>	Bomb; Chemical Agent GB; MK94 MOD 0,500 Lb	1325-00-566-0324	<b>Prime Stock</b> <b>User:</b> Navy/ USMC (Air)
1325 -F104	Bomb, Practice <b>BDU-50/B</b> Inert Filled (Concrete)	1325-01-166-2562	
1325 -F243	Bomb, Practice MK82 MOD O, Inert Filled	1325-00-580-1779	Prime Stock
1325 -F240	Bomb, MK82 MOD O Empty	1325-00-585-3841	Prime Stock
1325 -E486	Bomb, MK82 MOD O Empty	1325-00-465-7285	Prime Stock
1325 -F372	Adapter/Booster, Bomb Nose, MI 15A1	1325-00-926-3954 1325-00-495-5413 1325-00-827-3851 1325-00-926-1856	Prime Stock Alternate Stock Alternate Stock Alternate Stock
1325 -F529	Burster, HBX1	1325-00-033-8011	prime Stock
1325-F624	Fin Assembly, Bomb Conical, MK82 W/Suspension Lugs	1325-00-585-3784	Prime Stock
1325 -F657	Fin Assembly, Bomb conical, <b>MAU93/B</b> W/Suspension Lugs	1325-00-476-5855 1325-00-866-1175 1325-00-923-1475	Prime Stock Alternate Stock Alternate Stock
1325 -F681	<b>Fuze</b> , Bomb, Nose Impact <b>M904E1</b>	1325-00-926-1895	<b>Prime Stock</b>

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“Arming **wires** are **not** a stock item. **They** are **locally** fabricated by the loading crew.

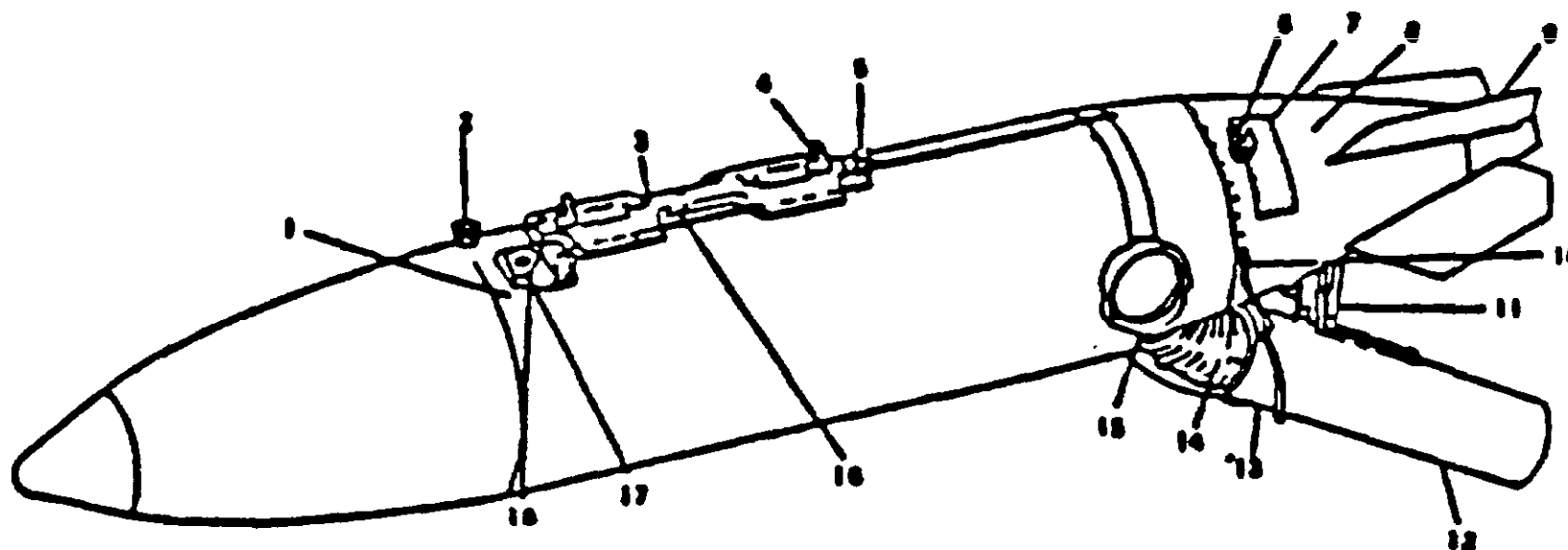


BOMB B, CHEMICAL AGENT GB  
MC-1 750 POUND (1325-E388)

The MC-1 gas bomb is a modified body of the M1 17, 750 pound general-purpose bomb. It is streamlined to ensure low air resistance. A hollow **burster** tube is welded at both ends and lies between nose and tail **fuze** cavities. The remainder of the bomb cavity is filled with 220 pounds of chemical agent.

DODAC	NOMENCLATURE	NSN	USER
1325 -E388	Bomb, Chemical: Agent GB; MC-1, 750 Pound	1325-00-554-1173	Prime Stock User: AF
1325 -F110	Bomb, GP M1 17 750 lb (Empty)	1325-00-322-6386	
1325 -F245	Bomb, GP M1 17A1 750 lb (Empty)	1325-00-926-9305	
1325 -F246	Bomb, GP M117A1E1 750 lb (Empty)	1325-00-496-1908	
1325-F250	Bomb, GP, M1 17 750 lb (Inert)	1325-00-028-5266	
1325 -F372	Adapter-Booster, Nose M148	1325-00-495-5413 1325-00-827-3851 1325-00-926-1856 1325-00-926-3954	Prime Stock Alternate Stock Alternate Stock Alternate Stock
1325 -F387	Adapter-Booster-Tail M147	1325-00-926-4082 1325-00-935-2070 1325-00-935-6085	Prime Stock Alternate Stock Alternate Stock
1325-F418	Arming Wire Assembly	1325-00-907-6734	Prime Stock
1325 -F522	Burster M32	1325-00-716-1443	Prime Stock

1325-F578	Fin Conical: M131A1 w/2 SUSP LUG	1325-00-930-0943	
1325-F639	Fin, Conical; MAU103/B W/Lug Suspension	1325-00-088-7926	Prime Stock
1325-F835	Fuze, Bomb: Nose M904E3	1325-00-143-7153 1325-00-965-0855 1325-00-827-4029	Prime Stock Alternate Stock Alternate Stock
1325-F989	Fuze, Bomb, Tail M905/T771	1325-00-827-4020 1325-00-756-2184	Prime Stock Alternate Stock
1325-G212	Delay, Element Fuze M9	1325-00-585-9290	Prime Stock
1325-CY72	Swivel Link	1325-00-764-1284	Prime Stock
1325 -EY21	Ferrule, Arming Wire	1325-00-028-5817	Prime Stock
1325-EY50	Drive, Assembly; ATU 35 A/B	1325-00-126-2030	Prime Stock
1325 -EY63	Shaft, Drive, Fuze Arming, MAu 86/B6	1325-00-236-1994	<b>Prime</b> Stock
1325-EY74	Clip, Safety Arming Wire	1325-00-456-3490	Prime Stock
1325 -EY91	Coupler, Drive Assembly MAU 87/B	1325-00-920-7346	P r i m e   S t o c k



- |                              |  |
|------------------------------|--|
| 1. AGENT CONTAINER           | 10. ARMING PIN                             |
| 2. FILLER BOSS               | 11. SWAYBRACE                              |
| 3. HARDBACK ASSEMBLY         | 12. <b>DISSEMINATION NOZZLE</b> (EXTENDED) |
| 4. suspension LUGS (TYPICAL) | 13. CONNECTOR DUCT SHIELD                  |
| 5. ELECTRICAL RECEPTICAL     | 14. CONNECTOR DUCT                         |
| 6. ACTUATOR                  | 15. OUTLET CUTTER                          |
| 7. ACCESS DOOR               | 16. NAMEPLATE                              |
| 8. TAIL CONE                 | 17. INLET CUTTER                           |
| 9. TAIL CONE FIN             | 18. AIRSCOOP "                             |

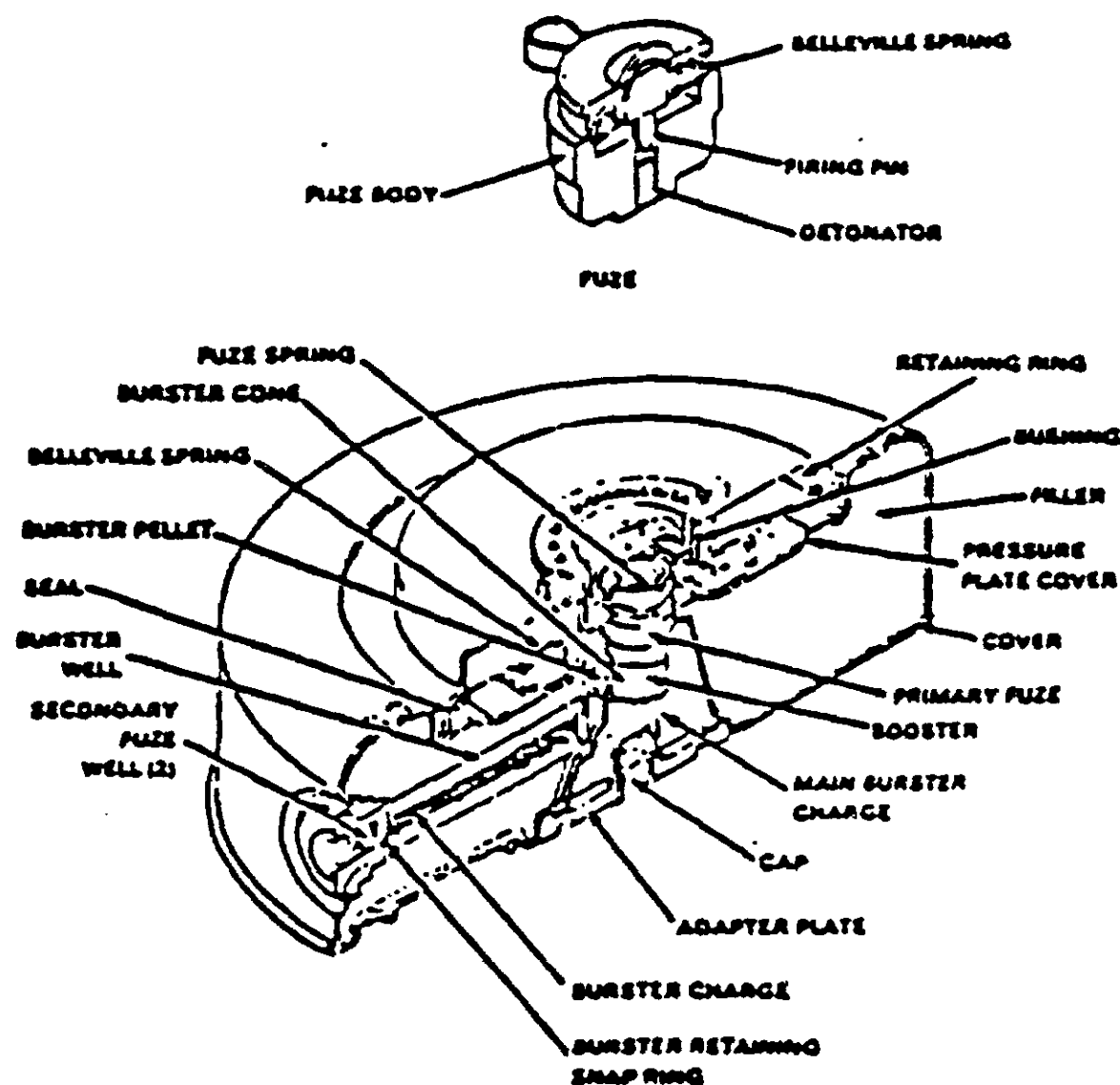
**TANK, SPRAY: AGENT VX  
TMU28/B (1325-DY32)**

The **TMU28B** spray tank consists of four major sections: an **agent** container, the hardback assembly, the **tail** c-one section, and a **dissemination** nozzle. The sections are assembled and shipped as one unit. The agent container has a total of 160.4 gallons of persistent chemical agent. The **TMU28/B** spray tank is stored and **shipped** in a **CNU-77/E23** shipping and storage container. Items that are needed to employ this weapon system are listed below.

DODAC	NOMENCLATURE	NSN	USER
1325-DY32	Tank, <b>Spray TMU28/B</b>	1325-00-900-5542	Prime Stock User: AF
1325-DY36	Kit, Assembly Cutter	1377-01-092-5691	• Prime Stock
1325 -EY56	Tank, <b>Spray TMU28/B</b> Empty	1325-00-225-0901	
None	Container, Shipping and Storage <b>CDU77/E23</b>	8140-00-118-9627	

**NOTE:**

1. **DY 36 kit**, assembly cutter,. contains both front **and** rear cutters and electrical cable for F-4 aircraft.
2. Kit, assembly cutter, will be uploaded in July/August 1986 and will be shipped in conjunction with DY 32.



MINE, CHEMICAL AGENT  
M23, VX 1345 -K257

The M23 chemical land mine has the same characteristics as the M15 antitank mine except it has four ridges on the top of the mine body located 90 degrees from each other. The M23 is **filled** with approximately 10.5 pounds of persistent agent **VX**. The mine is stored and shipped in a metal drum containing 3 mines, 3 **fuzes** and 3 activators. The initiator is installed during filling operation. No additional items or components are needed to place the mine in operation.

DODAC	NOMENCLATURE	NSN	USER
1345-K257	Mine, M23	1345-00-542-1580	Prime Stock Army/USMC

### **BULK AGENT**

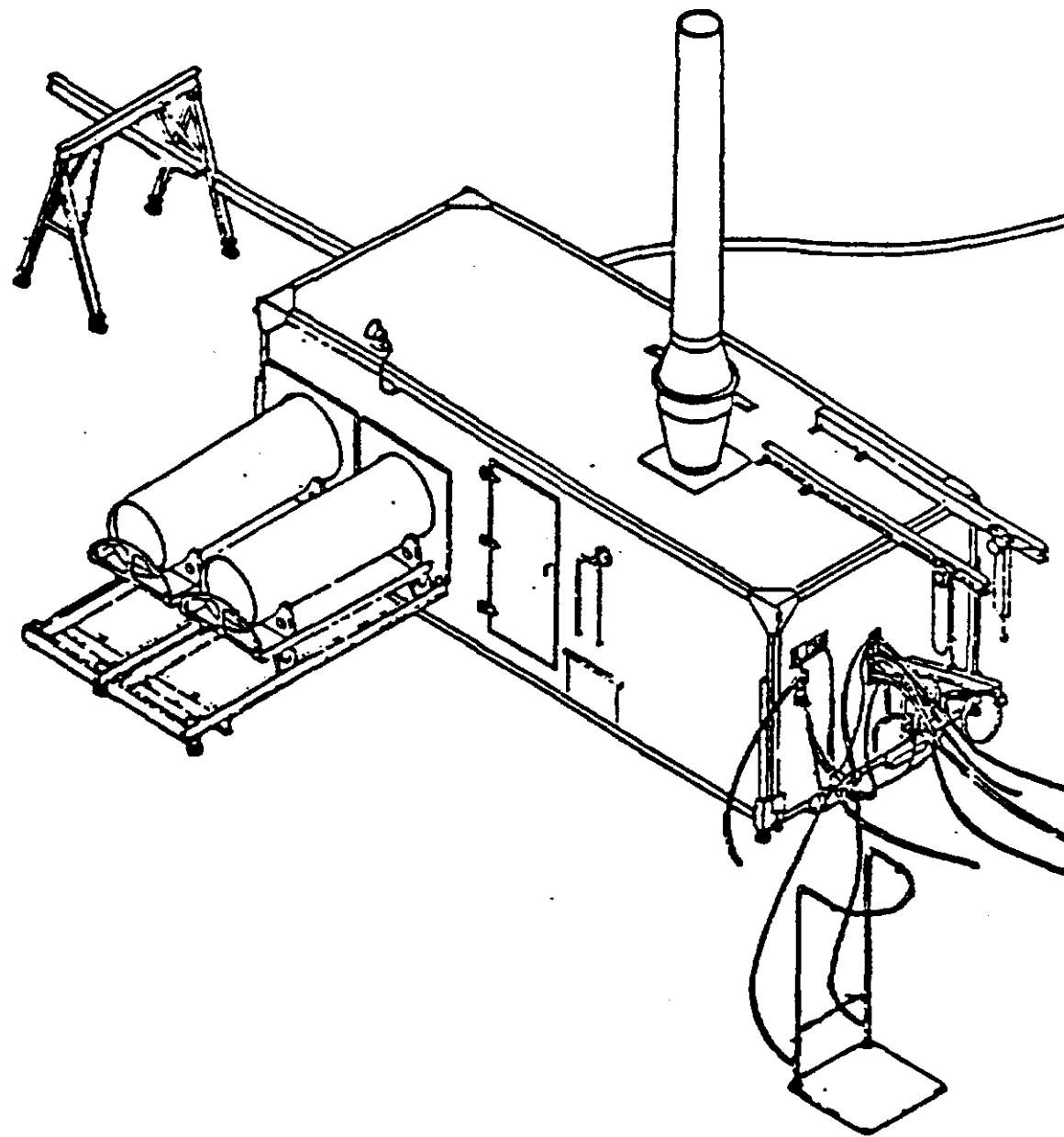
DODAC	NOMENCLATURE	NSN	USER
1365 -K655	Ton Container <b>HD</b>	1365-00-277-3040	Prime Stock
1365-K665	Ton Container <b>HT</b>	1365-00-277-3041	Prime Stock



<b>1365-K725</b>	Ton Container <b>GB</b>	1365-00-293-9239	Prime Stock
<b>1365 -K732</b>	Ton Container <b>VX</b>	1365-00-541-7209	Prime Stock

**CONTAINER**

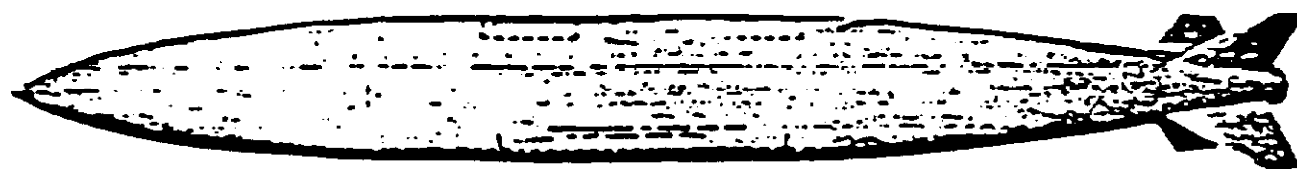
None	Ton Container	8140-00-292-9663 Type D	Empty
None	Ton Container	8140-00-292-9664 Type A	Empty



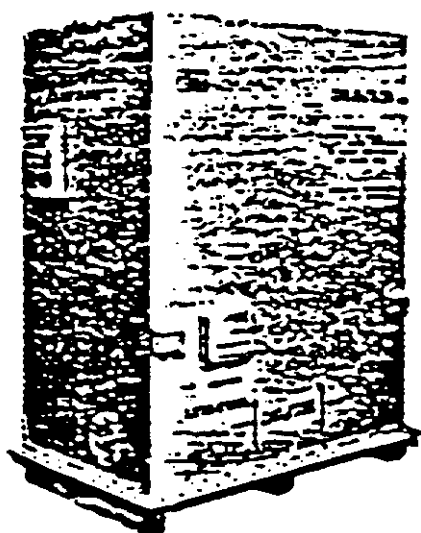
CHEMICAL TANK FILLING UNIT (CTFU) MK4 MOD O

The MK4 MOD O chemical tank filling unit is an in-service Marine Corps item of support equipment under the cognizance of Naval Air System Command and utilized by the Marine Wing

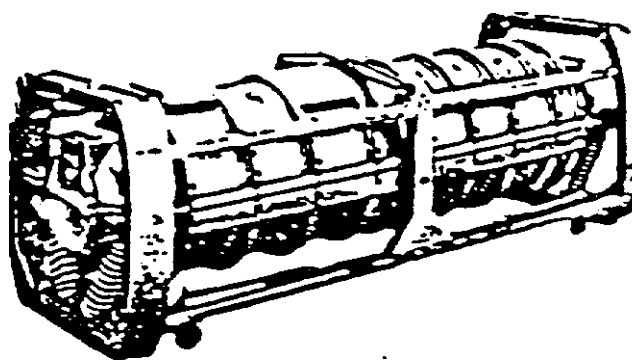
Weapons Unit (MWWU). The MK4 is a semiautomatic, toxic agent transfer system designed for field filling operations and decontamination of the Aero 14B Spray Tank. The system is compatible with the chemical agents VX and GB (thickened and **unthickened**). The field filling van consists of an air transportable **aluminum** van, dimensionally similar to the standard SATS van (20 feet long x 8 feet wide x 7 1/2 feet high). The interior of the van is designed to accommodate the required pumps, piping, valves, and equipment necessary to effect agent transfer from bulk containers into the Aero 14B Airborne Spray Tank.



**AERO 14B AIRBORNE SPRAY TANK**



**AERO 14B COMPONENT  
CONTAINER**



**AERO 14B CENTER SECTION  
CONTAINER**

### **AERO 14B AIRBORNE SPRAY TANK AND SHIPPING CONTAINERS**

The Aero 14B Airborne Spray Tank is an in-service Marine Corps weapon under the cognizance of Naval Air Command. The Aero 14B is a self-contained, pressure type, combination storage and airborne dispersion weapon for various liquid agents. The pressure control system provides the force required for the discharge of the liquid agent stored within the reservoir. The discharge nozzle system, with its motor control assembly, provides the selection of a wide range of flow rates required for tactical use. The Aero 14B is of all **metal** construction designed for external carriage on authorized military aircraft. The spray tank can be removed from its two equipment shipping containers by Marine Wing Weapons Unit personnel and **field** assembled and filled using the MK4 MOD O chemical tank **filling** unit (CTFU).